

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-18: (canceled).

19. (currently amended): ~~The rotary contactless connector according to claim~~

~~16~~ A rotary contactless connector comprising:

a rotary transformer composed of a rotor defining a rotary side and having a transformer rotary winding and an annular stator defining a stationary side and being concentric with the rotor and having a transformer stator winding;

a plurality of rotating side elements, comprising at least one of rotating-side light emitting elements or rotating-side light receiving elements, provided on the rotor;

a plurality of stationary side elements, comprising at least one of stationary-side light emitting elements or stationary-side light receiving elements, that are disposed for optical coupling with the rotating-side elements, and

a switching circuit disposed on at least one of said stationary side and said rotary side, and being operative to switchably optically couple at least one of said plurality of rotating side elements to at least one of said plurality of stationary side elements,

wherein electric power is supplied to the rotor through the rotary transformer to enable optical communication,

wherein a plurality of said rotary side elements are arranged along a common circumferential locus and comprise only one of light transmitting or light receiving elements,

wherein an output of two light emitting elements does not enter a range of one light receiving element at the same time, and

wherein one light emitting element output enters the range of two light receiving elements at the same time,

whereby said switching device is controlled to provide continuous optical communication as said rotor is rotated.

20. (currently amended): ~~The rotary contactless connector according to claim 16~~ A rotary contactless connector comprising:

a rotary transformer composed of a rotor defining a rotary side and having a transformer rotary winding and an annular stator defining a stationary side and being concentric with the rotor and having a transformer stator winding;

a plurality of rotating side elements, comprising at least one of rotating-side light emitting elements or rotating-side light receiving elements, provided on the rotor;

a plurality of stationary side elements, comprising at least one of stationary-side light emitting elements or stationary-side light receiving elements, that are disposed for optical coupling with the rotating-side elements, and

a switching circuit disposed on at least one of said stationary side and said rotary side, and being operative to switchably optically couple at least one of said plurality of rotating side elements to at least one of said plurality of stationary side elements,

wherein electric power is supplied to the rotor through the rotary transformer to enable optical communication, wherein,

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a first plurality of said rotary side elements are arranged along a first common circumferential locus and comprise at least light transmitting elements, and.

a second plurality of said rotary side elements are arranged along a second common circumferential locus and comprise at least light receiving elements, and

wherein said first plurality of rotary side elements and said second plurality of rotary side elements are optically coupled to stationary side elements and are adapted to provide simultaneous bidirectional communication.

21. (previously presented): The rotary contactless connector according to claim 20 wherein said optical coupling between rotary side elements and stationary side elements is a switched coupling.